AMENDMENTS TO THE CLAIMS

1. (currently amended): A method for detecting a target ribosomal ribonucleic ~~nucleic~~ acid molecule (rRNA), said method ~~comprises~~ comprising:

a) preparing a bacterial cell lysate comprising lysing a bacterial cell in a biological sample in a lysis buffer to release the target ~~nucleic acid~~ rRNA molecule from the bacterial cell;

b) incubating the bacterial cell lysate from step a), without nucleic acid purification, with a ~~nucleic~~ capture deoxyribonucleic acid (DNA) probe immobilized on a solid substrate under conditions that allow specific hybridization between the target ~~nucleic acid~~ rRNA molecule and the capture probe, wherein the ~~nucleic acid~~ capture probe comprises a sequence complementary to the target ~~nucleic acid~~ rRNA molecule;

c) assessing hybridization between the target ~~nucleic acid~~ rRNA molecule and the capture DNA probe to determine the presence, absence and/or amount of the target ~~nucleic acid~~ rRNA molecule,

wherein the hybridization between the target rRNA molecule and the capture probe is assessed by determining specific binding of a reporter to the target rRNA molecule, wherein the reporter comprises a reporter DNA probe complementary to the target rRNA molecule and a detectable marker selected from the group consisting of a fluorescein, an isotope, a biotin, a digoxin, a gold colloid, a magnetic bead, a electrochemical label, and a chemiluminescent label; and

steps a) through c) can be completed in 90 minutes or less.

2. (currently amended): The method of claim 1, wherein the bacterial cell is lysed in the lysis buffer by a physical method.

3. (original): The method of claim 2, wherein the physical method is selected from the group consisting of grinding, ultrasonic lysing, lysing with high temperature, and freezing.

4. (currently amended): The method of claim 1, wherein the bacterial cell is lysed in the lysis buffer by a chemical method.

5. (original): The method of claim 4, wherein the chemical method is lysing with a protein denaturant or a detergent.

6. (currently amended): The method of claim 1, wherein the bacterial cell is lysed in the lysis buffer by a biological method.

7. (original): The method of claim 6, wherein the biological method is lysing with a proteinase or a lysozyme.

8. (currently amended): The method of claim 1, wherein the bacterial cell is lysed by any combination of a physical method, a chemical method, and a biological method.

9. (currently amended): The method of claim 1, wherein the cell lysate is incubated with the capture probe immobilized on the substrate in the lysis buffer for hybridization.

10. (currently amended): The method of claim 1, wherein an agent that aids for hybridization is added to the cell lysate before the cell lysate is incubated with the capture probe.

11. (currently amended): The method of claim 10, wherein the agent is selected from the group consisting of ~~NaCl~~ sodium chloride, ~~citrate~~ sodium citrate, and ~~SDS~~ sodium dodecyl sulfate.

12. (currently amended): The method of claim 1, wherein the biological sample is a sample selected from the group consisting of a non-virus biological organism, a biological tissue, ~~a eukaryotic cell,~~ and a prokaryotic cell.

13. (canceled)

14. (original): The method of claim 1, wherein the solid substrate comprises a material selected from the group consisting of a nylon film, a pyroxylin film, a silicon, a glass, a ceramic, a metal, a plastic, and a combination thereof.

15. (currently amended): The method of claim 1, wherein the solid substrate comprises a plurality of ~~nucleic acid~~ capture probes, and wherein the plurality of the ~~nucleic acid~~ capture probes are immobilized on the solid substrate to form an array.

16. (currently amended): The method of claim 15, wherein the plurality of the ~~nucleic acid~~ capture probes have different nucleotide sequences.

17. (currently amended): The method of claim 16, wherein the number of different capture probes is from about 2 to about 100,000.

18. (currently amended): The method of claim 15, wherein the array [[is]] has an area ranging from about 0.01 mm^2 to about 100 cm^2.

19. (currently amended)): The method of claim 15, wherein the array is selected from the group consisting of a two-dimensional array[[,]] and a three-dimensional array~~, and a four-dimensional array~~.

20. (currently amended): The method of claim 1, wherein the ~~nucleic acid~~ capture probe immobilized on the solid substrate comprises a single-stranded oligonucleotide or a double-stranded PCR product.

21. (currently amended): The method of claim 1, wherein the bacterial cell lysate comprises an agent selected from the group consisting of a detergent, a protein denaturant, a buffer, a nuclease inhibitor, a salt, and a combination thereof.

22. (canceled)

23. (new): The method of claim 1, wherein the reporter is added to the bacterial cell lysate before the bacterial cell lysate has been incubated with the capture probe.

24. (new): The method of claim 1, wherein the reporter is added to the bacterial cell lysate after bacterial the cell lysate has been incubated with the capture probe.